

# from EVIDENCE to POLICY

Learning what works, from the Human Development Network

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## Can Demand for Toilets be Encouraged? Evidence from Indonesia

Proper sanitation reduces the spread of illnesses such as diarrhea and typhoid, which can be transmitted through fecal matter. In countries where people prac-

tice open defecation in rivers, fields and forests, these illnesses are harder to stop. Fecal matter is tracked into homes and into food, causing life-threatening disease, particularly among infants and children under the age of five. Development practitioners and policy-

makers seeking to improve sanitation and reduce open defecation are still searching for the most effective programs. Financial constraints, inadequate water systems

and habit of behavior all play a role in slowing the end of open defecation.

The World Bank is committed to helping countries develop the necessary infrastructure and practices to reduce disease and enable families to raise healthy children. In Indonesia, the Water and Sanitation Program, an international partnership supported by the World Bank, worked with the government to develop new approaches to discourage open defecation and increase the number of toilets in poor, rural areas. An impact evaluation of a program to foster demand for toilets by raising awareness—instead of building sanitation facilities and hoping people would use them—did show a boost in toilet construction and a drop in diarrheal illness. The changes, however, were mainly seen in non-poor households, indicating that in some cases, subsidies might be worth considering when working with households that might need a little extra assistance to make the shift from open defecation to indoor toilets.

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### Context

Close to half of Indonesia's 247 million people don't have access to proper sanitation—such as a flush toilet or pit latrine—and some 63 million practice open defecation. This poses a serious health hazard in their

communities, especially to children and babies. There's an economic cost as well. Economists have estimated that Indonesia loses about \$6.3 billion annually because of poor health, lost productivity, clean water replacement, and other costs related to sanitation.

The Water and Sanitation Program, a multi-donor trust fund administered by the World Bank, supported governments in India, Indonesia and Tanzania in implementing programs at scale. In Indonesia, the Total Sanitation and Sanitation Marketing program sought to reduce open defecation by building demand for san-

In Indonesia, sanitation practices are so poor that roughly 11 percent of children suffer from diarrhea in any two-week period, and more than 33,000 die each year from the disease. Another 11,000 children die annually from typhoid.

World Bank report:  
<https://www.wsp.org/sites/wsp.org/files/publications/WSP-Indonesia-Sanitation-Impact-Evaluation-Field-Note.pdf>

itation facilities through campaigns about the dangers of tracking feces into food and other risks. Concurrently, the program sought to encourage the supply of materials needed to build toilets.

The program, implemented in rural communities of East Java in concert with the national government and local administrations, had three components: Fa-

cilitators provided people with information about the benefits of using toilets and the health problems associated with not using them; social marketing campaigns sought to identify what people wanted and then to encourage the private sector to make these available; and a program aimed to develop and support government sanitation policies.

## Evaluation

The program was scaled-up in three phases in East Java's 29 rural districts, starting in 2007. The evaluation was implemented during Phase Two, by which point start-up issues had been dealt with. Eight of the 11 districts in the Phase Two roll-out, which began in 2008, were included in the evaluation. Within each district, 10 villages were randomly assigned to the control group, meaning they weren't supposed to receive the program

in this phase of the roll-out, and 10 villages were randomly assigned to be in the treatment group, meaning they were supposed to receive the program. In total, 160 villages were assigned to the evaluation. A baseline household survey was conducted in these communities in 2008, including a health-nutrition component for children under the age of five. Follow-up data was collected 24 months later.

## Findings

**The program caused a decline in open defecation—especially among households close to a river and among people who had access to toilet facilities but usually didn't use them.**

The percentage of households that reported that at least one member defecated in the open dropped by 4.4 percentage points, with bigger declines in villages closer to the river. Overall, 53 percent of households in the control group and 48.8 percent of households in villages where the program was implemented reported that at least one member defecated in the open, with men and children doing it more often than women. Much of the decline was driven by households that already had access to sanitation facilities. At the two-year survey mark,

22 percent of people in villages where the program was implemented and who had access to a toilet reported defecating in the open, compared with 26 percent in the control group.

**The program had a significant impact on construction of toilets.**

Sixteen percent of households in villages where the program was implemented built toilets, compared with 13 percent in the control villages. But generally, change wasn't seen among households at the bottom of the income scale, indicating that boosting demand might not be enough to change behavior when funds aren't available for those without the money to build.

**Reported rates of childhood diarrhea declined in villages where the program was implemented and the children had less blood or mucus in their stools, which can indicate a lower rate of parasites.**

Diarrhea in children under 5, based on reports by caregivers, dropped by 1.4 percentage points. On average, 2.4 percent of children in areas where the project was implemented had diarrhea in the week prior to the survey, compared to 3.8 percent in the control group, a statistically significant difference.

**Because people who practice open defecation sometimes believe it's cleaner, especially if they defecate in a river, the program included a "walk of shame" to show households how fecal matter travels from the outdoors into food and drinking water.**

Trained representatives went to each village to discuss sanitation and the role it plays in health. The meetings were held in public spaces and open to everyone. The meetings included a presentation in which villagers were asked to mark on the ground where they lived, where they defecated and what routes they took back and forth. People would become horrified as they realized that they were usually crisscrossing feces-contaminated areas.

Facilitators used this to discuss how the villages could work to reach Open Defecation Free status (which comes with public recognition from local authorities) by constructing and using sanitation facilities. Two years into the program, 11 percent of villages had been designated open defecation free.

**But program implementation didn't always reach everyone in the village. People might not have been around the day the facilitator came to talk, or they may have simply not known about it in advance.**

Two years after the program was launched, 25 percent of households in villages in the treatment group said they

had heard of the program's specific sanitation activities, such as a public meeting.

Concurrently, villagers were receiving messages about good sanitation practices through a variety of sources, not all of them related to the program. Television and village health staff were most frequently cited as a source of information, both when it came to this specific program and information in general about sanitation and health.



**An overwhelming majority agreed that having a toilet improved health, but people continued to tolerate open defecation.**

More than 90 percent of respondents polled after the program ended agreed that having a toilet benefitted the community and protected against diarrhea. But nearly a third still believed it was okay for people to defecate outside if they didn't own a toilet and only 72 percent thought that diarrhea was a consequence of others defecating in the open.

## The main obstacle to constructing toilets in households appears to be cost.

On average, people estimated that the cost of a latrine would be \$135, which corresponds to roughly one-third of the annual per capita income for the average house-

hold in the sample. (The actual cost is \$50 to \$90 for a slab latrine, which generally refers to a pit covered with a concrete slab with a hole for defecation.) A majority of households in both treatment and control villages reported that costs of building a toilet in their home had risen in the last 12 months.

## Conclusion

While the program showed some progress in changing attitudes toward open defecation and increasing knowledge about the health risks involved in the practice, people in many areas of Indonesia continue to defecate outside, particularly in rivers. Many households reported believing that defecating in rivers was better than in a pit latrine. Thus, focusing programs on

communities near rivers might further improve sanitation and decrease incidents of diarrhea in children under five. The evaluation also found that wealthier households tended to build more toilets in the home. **When designing such programs, policy makers may want to consider giving credits or subsidies to poor households to increase impact.**

The Human Development Network, part of the World Bank Group, supports and disseminates research evaluating the impact of development projects to help alleviate poverty. **The goal is to collect and build empirical evidence that can help governments and development organizations design and implement the most appropriate and effective policies for better educational, health and job opportunities for people in developing countries.** For more information about who we are and what we do, go to: <http://www.worldbank.org/sief>.

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**Human Development Network**

THE WORLD BANK, HUMAN DEVELOPMENT NETWORK

1818 H STREET, NW WASHINGTON, DC 20433

Produced by Office of the Chief Economist, Human Development Network, Communications/Aliza Marcus

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